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*With the Auctioneers (original)*

O Z Æ N A . (23)

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ETC., ETC.

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IN treating of the subject of ozæna in general we must distinguish between two classes of morbid conditions in which fœtid nasal breath is a prominent symptom. I exclude at once all cases in which the fœtor is due to diseases in the deeper structures of the nasal cavity, as ulceration, caries of the bones, and abnormal growths, or when foreign bodies are the immediate cause.

But, independently of these, we find two distinct classes—one in which the ozæna is due to some lesion of the mucous membrane, most frequently the result of a dyscrasia; the second class comprising those cases in which there is no such lesion to which to attribute the disease, or in which an altered state of the mucous membrane is the result of the ozæna, and not its cause. This form has till the last few years been apparently quite overlooked, and it at present forms the subject of an interesting and animated controversy with our Continental brethren. It is to this latter form that I desire to call your special attention.

In all the standard works in which the subject of ozæna is discussed we find no allusion to this form of the disease. In Ziemssen's Cyclopædia, ozæna, the "Stinknase" of the Germans, the "punaisie" of the French, from its fancied resemblance to the smell of crushed bugs, is classed under the same heading as chronic rhinitis, and it has origin accordingly in a dyscrasia. "Acute rhinitis," Fraenkel tells us, "may pass into the subacute or chronic forms, and yet in the vast majority of cases this *only takes place in persons suffering under a dyscrasia*. Scrofula and syphilis are particularly liable to induce this transition. . . . We can distinguish two forms of chronic catarrh in the nose—the hyperplastic and the atrophic forms. They often coexist, but in most cases the atrophic form seems to be the result of the hyperplastic; at least it is most commonly found in old cases, and after the prolonged

\* Read at the Meeting of the Dublin Biological Club, April 5, 1881.

continuance of the hyperplastic." This is the order of events which we find in the pharynx :—The three stages of chronic follicular pharyngitis are repeated in the nasal cavities, beginning as a chronic catarrhal pharyngitis, going on to hypertrophy of the follicles and mucous membrane, and finally, as the follicles wear out, the retrograde process taking place, and atrophic pharyngitis or pharyngitis sicca being the result. In the nose we have the same sequence—a chronic rhinitis is established. This is the result of an acute attack occurring in persons presenting other symptoms of dyscrasia; or "in persons having no dyscrasia, an acute rhinitis under bad care, continuance of the irritant, and other injurious influences, may relapse and finally terminate in the chronic form." This chronic form is at first of the hypertrophic kind, the mucous membrane being thickened and red, the secretion being of a muco-purulent character, and abundant in quantity. Morgagni relates a case in which it amounted to an ounce per hour. Should the mucous membrane be sufficiently tumefied to cause obstruction of the nose, the secretions are retained and by degrees decompose, their decomposition giving rise to the fœtor of ozæna. This, however, is not a very frequent occurrence during this stage of the disease. It is in the later stage, when the hyperplasia gives place to atrophy, that this symptom declares itself with all its unpleasant consequences. To this latter stage Gottstein applies the term, "chronic atrophic rhinitis." Robinson, in his recent work on "Nasal Catarrh," calls it "the dry form of chronic coryza." It seems to be brought about in the following way :—During the hypertrophic stage there is deposited in the deep layer of the mucous membrane new formations of connective tissue and hyperplasia of the normal elements found there. This new tissue so presses upon the glands and follicles that their function is almost if not entirely destroyed, and they consequently atrophy, or as the inflammatory products become organised and contract, they so constrict the glands that atrophy is the result. In proportion to the activity or intensity of these processes is the rapidity with which these changes occur; and hence, though we generally find the atrophic stage coming on at a late period after the hypertrophic stage has existed for years, still we need not be surprised if we find them coming on at a comparatively early epoch, so that the early stage of enlargement of the glands, thickening of the mucous membrane, and abundant secretion, may almost be overlooked. The appearance of the nasal passages and of the naso-



pharyngeal space is very characteristic. The first thing we observe is an abnormal dryness of the mucous membrane in these regions. It has a glazed, parchment-like appearance, and is covered with inspissated mucus. This is very thick, and has a tendency to form crusts:—"These," says Fraenkel,<sup>a</sup> "become firmly attached to the subjacent surface, perhaps owing to the large amount of albumen they contain, and by reason of their wealth in morphological elements (numerous epithelial cells) and their dearth of fluid constituents, are easily dried by the air passing over them." The tenacity with which these crusts cling to the mucous membrane beneath is exhibited when trying to remove them—sometimes they resist even a stream of water directed against them; and this tenacity is characteristic also, though in a less degree, of the dry pellicle of mucus which has not gone so far as to form crusts. The amount of secretion is very great, and is poured out as thick viscid mucus. It, however, rapidly dries, and if retained, as it will be unless proper means be used to get rid of it, it decomposes and gives rise to the characteristic stench. Fraenkel attributes the retention and drying of the secretion to the abundance of cells, the paucity of water, and its stickiness, but considers that defective cleaning of the nose aids in accomplishing the result:—"This may be owing to habitual failure to blow one's nose, to feebleness of the expiratory current of air at the point affected (stenosis), or to diminished reflex irritability and an absence of a disposition to sneeze." Cohen, in his lecture on Naso-pharyngeal Catarrh,<sup>b</sup> takes a more histological view of the case when he attributes these conditions to a destruction of the epithelium. I need scarcely remind you that the epithelium lining the respiratory tract, with a few exceptions, is of the ciliated variety, and that the cilia have a continuous waving motion towards the exterior. In the nasal passages these cilia are continually brushing away excess of mucus. The diseased condition of the mucous membrane in chronic rhinitis causes destruction of numbers of the ciliated epithelia, and these are not reproduced. Hence this *potent* cause, according to Cohen, is absent, and retention is the result.

On removing the dried mucus and crusts from the surface, the mucous membrane has a remarkable appearance—it is reddened, the result of the cleansing process, and looks dry and raw. Looking up into the naso-pharynx, by means of the rhinoscope, the same

<sup>a</sup> Ziemssen's Cyclopædia. Vol. IV., p. 138.

<sup>b</sup> Medical News and Library. October, 1879.

condition is seen, and tumefied masses of glands and follicles are visible on the vault and sides. The posterior portions of the turbinated bones present the same dry crusts and pledgets of mucus, and sometimes an entire turbinated bone is covered over as if with a false membrane. Anteriorly the same appearance is seen. The turbinated bones are distinct and normal in size, the mucous membrane covering them thin and atrophied, the secretion dry and encrusted. The symptoms which this condition gives rise to are similar to those observed in the next class of *ozæna*, to which I will now call your attention.

In this class of *ozæna* no lesion is found, no disease of the mucous membrane, to which this disagreeable condition can be assigned; cases in which there is no previous history of a catarrh, or of a period at which there was an abundant odourless discharge. To account for such cases, to determine the true cause for a most pungent symptom, where to all appearance no disease exists, has been the endeavour of several astute observers in Germany. Several, among whom I may mention Gottstein, have attempted to class these cases under the third or atrophic form of chronic catarrh; but this is eminently unsatisfactory, as there has never been a second or third stage—and for other reasons to which I shall have occasion to refer again, I pass by this opinion as untenable. There still remain two views, which have been put prominently forward by their exponents. The first we shall consider is that propounded by Michel.<sup>a</sup> Recognising the fact that the mucous membrane of the nose and pharynx is more or less healthy, and that its condition is quite insufficient to account for the *ozæna*, he lays emphasis on the exceeding abundance of the discharges. The mucous membrane of the nasal passages he considers is incapable of secreting so abundantly; for, if altered, it is on the side of atrophy. Whence then does the discharge come? Evidently not from the nose, but from the accessory cavities. The only cavities which could be the cause of it are the sphenoidal and ethmoidal sinuses, since anatomical considerations preclude the other sinuses from being the chief factors. Thus the opening of the antrum into the middle meatus of the nose is situated in the upper part of the internal wall, so that any flow of mucus from it could only be by overflow, and there are no evidences that the antrum is full of fluid. The frontal sinuses could not discharge fluid on to the

<sup>a</sup> *Maladies du Nez et du Pharynx Nasal.* Berlin, 1876. Traduction Franç. Par A. Capart. Paris, 1879.



upper surface of the middle turbinated bone, where it is seen to exist, as their openings into the nose are situated below the anterior extremity of this bone. Hence he concludes that a chronic catarrh exists in the sphenoidal and ethmoidal sinuses, which by retaining the secretions allows them to decompose, and by then discharging them over every portion of the nasal cavity gives rise to ozæna.

Now this theory, which is very plausible, is not sustained by facts. In the first instance, the grounds on which it is based are hypothetical, for the author has failed to demonstrate that any catarrh of these sinuses does actually exist; whilst, on the other hand, in a well-marked case of the disease, Hartmann, who made a *post mortem* examination, could detect no abnormal condition of these cavities.

The second view enunciated is by Zaufal,<sup>a</sup> and the cases which I shall lay before you seem to me to support this view. He states the case thus:—This class of ozænæ, in which no lesion is found, affects children, and especially girls arriving at the age of puberty. The parents usually state that the fœtor began to show itself within the last few months. The child finds great difficulty in blowing its nose, and the particles emitted are composed of horribly fœtid, greenish crusts. The young patient is pale and dispirited, complaining sometimes of cephalalgia. The scrofulous diathesis is not specially marked; the nose is flattened, the septum is deflected to one side, so as to compress the lachrymal canal and cause epiphora. The alæ nasi are enlarged, but the nasal fossæ specially have a remarkable aspect to those who are well acquainted with their usual appearance. Instead of the normal narrowness of the passages between the septum nasi and the middle and inferior turbinated bones, a true cavern is seen to exist, due to the almost complete absence of these two turbinated bones, especially of the inferior, which are reduced to mere ridges, thus exposing to view the trumpet-shaped opening of the Eustachian tube, all the movements of which during phonation and deglutition are clearly seen. The whole septum and back of the pharynx are well exposed. Abundant semi-inspissated or dried crusts cover over the various parts, and if they be removed by irrigation the mucous membrane beneath is found to be reddened, but without any trace of ulceration. At the same time it seems to be atrophied. Over the inferior turbinated bone the erectile structure has disappeared, and a probe comes into immediate contact with the turbinated bone.

<sup>a</sup> Aertzliches Correspondenzblatt aus Böhmen. No. 23. 1874.

This characteristic conformation may exist only on one side, or it may be hereditary, the mother who brings the child having a nose formed absolutely in the same way.<sup>a</sup>

Michel, who has seen this condition and recognised it, in holding to his own view, does not consider the malformation sufficient explanation of the disease; whilst Gottstein considers that the small size of the bones is part of the general atrophic process which goes on during the third stage of the catarrh. But then Michel's theory does not explain why the ozæna should be hereditary, why it appears always at puberty, or why it may sometimes be unilateral; and Gottstein does not state why in some cases of atrophic catarrh the turbinated bones do *not* share in the process.

On the other hand, Zaufal maintains that this excessive arrest of development explains these points, as well as accounting for the occurrence of ozæna. The ozæna is simply the result of the size of the nasal fossæ. The mucous secretions are no longer driven forwards little by little, as takes place in the normal condition when the expired air plays on the turbinated bones. The air goes out more slowly; the mucus, no longer drawn with it, retains its position and decomposes. Moreover he points out that there is not an abnormal increase in the secretion, as stated by Michel, but that it is only apparent, and results from the fact that the patient cannot blow his nose. The disease does not make itself apparent in early life. The child is born with rudimentary turbinated bones. During the first few years, the nose being very small, the disease does not declare itself; but, as the child grows, the bones of the face gradually develop, the turbinated bones remain stationary, and at or about puberty ozæna appears.

The retention, drying, and decomposition of the secretion on the surface of the mucous membrane reacts in an injurious way on this membrane, with whose function it interferes, and thus causes it to undergo a process of atrophy more or less pronounced, so that this atrophy, instead of being the cause, is in reality the consequence of the ozæna.

The first case of this affection came under my notice for the first time in 1877:—

CASE I.—K. II., aged twenty-one, a healthy-looking girl from the county Wicklow, applied at the Throat Hospital on October 27, 1877, for ozæna, bringing a recommendation from Dr. Swanzy. As long as

<sup>a</sup> Hayem. *Revue des Sciences Médicales*. Avril 15, 1880.

she could remember she had suffered from the complaint, and when young had been examined by a local doctor, who could detect nothing to account for the unpleasant odour. None of her family had ever had anything of the kind, but had always been strong and healthy. Except for the condition of her nose and throat, she had never suffered from any ailment. There were no evidences of a scrofulous diathesis, nor of any other dyscrasia. She had a well-marked nystagmus. There was no smell from the oral breath, but the nasal breath she described very correctly as "dreadful;" not that she was conscious of it herself, but all who came in contact with her made it sufficiently evidently that the *ozæna* was dreadful, and accordingly she always kept aloof from strangers. Between the age of fourteen and fifteen the menses appeared, and have since been regular. Their advent had no effect on the nasal trouble, and at the age of twenty-one she came to Dublin to see what could be done for her. Cold air, she stated, had no effect on her, but damp weather gave her great distress in the head, which would be quite "stupid." There was always a great discharge from the nose, which in damp weather increased. She never derived any good from muffling herself up, but always felt the better of change of air and sea bathing. On examination the condition observed was the following:—The posterior wall of the pharynx was covered over with a thin greenish pellicle of dried mucus, which extended up into the naso-pharynx, in which region isolated pledgets of mucus were seen adhering to the membrane on the vault and posterior wall, both sides of the septum nasi, and round the openings of the Eustachian tubes. The rhinoscope, which after a little practice she tolerated remarkably well, afforded a good view of this region. It showed, too, that the nares were very roomy, and on one occasion I find, in the notes taken at the time, that the anterior nares were momentarily brought into view. The dried mucus was with difficulty brushed off with cotton wool fastened on to the end of a pharyngeal probe, and beneath it the mucous membrane was seen to be atrophied and raw looking. It became greatly injected after the efforts made to remove the mucus; but on resuming its usual condition, the membrane was seen to be thinned, secreting little, and presenting no abrasions or ulcerations.

Anteriorly the nose was well shaped, the nostrils larger than usual, but not broad or flattened. Internally each nostril exhibited a regular cavern, with dry shining walls, and adherent dry mucus, chiefly in pledgets and crusts. The posterior wall of the naso-pharynx was clearly seen through the nostrils. When she articulated or swallowed, the levator palati muscle was perceptible in motion, the palate rising and falling, and the Eustachian tube opening and closing distinctly. The inferior turbinated bone formed a mere ridge on the outer wall. The middle one, though larger, was quite rudimentary, and the mucous



membrane covering them had the same appearance and characters observed in other parts of the nasal cavity.

The indications for treatment in this case were—firstly, to remove the ozæna, and, secondly, to overcome the atrophy. In the latter object I was quite unsuccessful. For months she was under treatment, and every means I could devise were tried in succession in order to bring about a different condition of the mucous membrane, but I found none which was effectual, and no method which had more claim to be preferred than another; and this, I may say, has been the experience of all those who have endeavoured to combat this atrophy. For the ozæna itself I tried several disinfectants, but that which seemed most effectual was Condyl's ozonised sea-salt, as recommended by Lennox Browne. This was dissolved (a teaspoonful in a tumbler of warm water), and was used daily with Thudichum's douche—that is, it was allowed to flow into one nostril by means of a syphon, and to flow out of the other. As long as this was persevered in daily the fœtor disappeared, but if its use were discontinued even for a day the ozæna reappeared. I have seen her lately, and she tells me that she uses it now every morning as part of her toilet, and she suffers no inconvenience from its use. When I saw her the fœtor was almost imperceptible.

CASE II.—The second case is that of a medical student who consulted me a short time ago for his throat. He said he suffered from an uncomfortable feeling at the back of the throat and a constant trickling of mucus from the back of the nose. I examined the pharynx, and found it dry, glazed, and congested; it was coated with a thin layer of dry adherent mucus. The rhinoscope showed that this same condition extended up into the naso-pharynx. This made me examine at once the anterior nares, where I found the same configuration of parts as was observed in the previous case, the left side being more affected than the right. I interrogated him as to the presence of ozæna, and he told me he had suffered from it for the last ten years. He was himself unconscious of its presence, but he knew well of its existence from his friends, and it caused him so much annoyance that he usually kept at a distance. None of his family were similarly affected. He does not remember ever having suffered from rhinitis in any form. Though unable to recognise the fœtor in his own nose he is keenly alive to other smells, and finds the dissecting-room very offensive. Through both nares the posterior wall of the naso-pharynx was clearly seen, as were also the various movements of the levator palati muscle, the soft palate, and the orifices of the Eustachian tubes.

CASE III.—The third case is not, properly speaking, a case of ozæna, as there is no fœtor; but as it presents some remarkable points in con-

nexion with the subject before us I think it well to bring it forward, the most remarkable thing presented by the case being the total absence of fœtor. The case is that of a teacher, aged twenty-six, resident in County Wicklow, who sought advice at the Throat Hospital on March 27th, 1880. He complained of a dryness of the throat, which caused him such distress that he found it difficult to carry on his avocation. The pharynx was dry and glazed, the mucous membrane being atrophied and dry mucus adhering to its surface. The larynx presented signs of chronic laryngitis. The right naris was normal, but the left presented the conformation to which I wish particularly to draw attention:—A large and cavern-like nasal cavity, the turbinated bones undeveloped, the inferior a mere ridge; the back of the pharynx dry and shining, the Eustachian tube opening and closing, the soft palate rising and falling, the levator palati approaching the middle line as it contracted, and then falling back into position—all this was plainly visible through a speculum in the anterior naris. This condition caused him no trouble, but he occasionally suffers from frontal pain. He is continually blowing his nose, and finds it more difficult to clear the right than the left side.

This case, I think, is of importance, for it presents on one side of the nose all the characteristics on which Zaufal has laid such emphasis, and is almost an exact copy of the two first cases, and there is and never has been ozæna. The explanation seems to me to be, that the right nostril being normal the expiratory force was greater in the left than it would have been had the two nostrils been similarly affected; and, moreover, the frequent efforts he made to clear the nostrils prevented the mucus remaining sufficiently long to decompose and to cause fœtor.





